

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2005/051211

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07D491/14 A61K31/437
 //(C07D491/14,311:00,235:00,221:00)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, BEILSTEIN Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/014123 A (BUHR WILM ; ALTANA PHARMA AG (DE); SENN-BILFINGER JOERG (DE)) 20 February 2003 (2003-02-20) cited in the application page 26 - page 27; claim 1 page 24, line 1 - line 4 page 6, line 22 - line 24	1-8,10, 11,14, 20,21
A	WO 95/27714 A (ASTRA AB ; BRIVING CARIN BIRGITTA (SE); NORDBERG MATS PETER (SE); STAR) 19 October 1995 (1995-10-19) cited in the application page 45; table 1	1-8,10, 11,14, 20,21
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

24 August 2005

Date of mailing of the international search report

18. 11. 2005

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>KAMINSKI J J ET AL: JOURNAL OF MEDICINAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, vol. 28, no. 7, 1985, pages 876-892, XP002094814 ISSN: 0022-2623 cited in the application page 882 - page 883; table IV -----</p>	<p>1-8,10, 11,14, 20,21</p>

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Although claim 21 is directed to a method of treatment of the human/animal body (Article 52(4) EPC), the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-8 (all partly), 10 (partly), 11 (partly), 14 (partly), 20 (partly)
21 (partly)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8 (all partly), 10 (partly), 11 (partly), 14 (partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents hydroxy-3-4C-alkenyl or hydroxy-3-4C-alkinyl;

2. claims: 1-5 (all partly), 14 (partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents hydroxy or 1-4C-alkoxy;

3. claims: 1-5 (all partly), 14 (partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents amino, mono- or di-1-4C-alkylamino, 1-4C-alkylcarbonylamino, 1-4C-alkoxycarbonylamino, or 1-4C-alkoxy-1-4C-alkoxycarbonylamino;

4. claims: 1-8 (all partly), 10 (partly), 11 (partly), 13 (partly), 14 (partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents carboxyl;

5. claims: 1-8 (all partly), 10 (partly), 11 (partly), 13 (partly), 14 (partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents mono- or di-1-4C-alkylamino-1-4C-alkyl;

6. claims: 1-8 (all partly), 10 (partly), 11 (partly), 14 (partly), 15 (partly), 17, 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents 1-4C-alkylcarbonyl, 2-4C-alkenylcarbonyl, or 2-4C-alkinylcarbonyl;

7. claims: 1-8 (all partly), 10 (partly), 11 (partly), 13 (partly), 14 (partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents the radical -CO-NR21R22;

8. claims: 1 (partly), 3 (partly), 4 (partly), 14 (partly), 20

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

(partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents hydrogen, 1-4C-alkyl, etc., and R3 is 1-4C-alkylcarbonyl;

9. claims: 1 (partly), 3 (partly), 4 (partly), 6 (partly), 7 (partly), 9 (partly), 14 (partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents hydrogen, 1-4C-alkyl, etc., and R3 is cyano;

10. claims: 1 (partly), 3 (partly), 4 (partly), 14 (partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents hydrogen, 1-4C-alkyl, etc., and R3 is the radical -CO-NR31R32 wherein R31 is amino;

11. claims: 1 (partly), 3-7 (all partly), 9 (partly), 14 (partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents hydrogen, 1-4C-alkyl, etc., and R3 is the radical -CO-NR31R32 wherein R31 is hydroxy or 1-4C-alkoxy;

12. claims: 1-7 (all partly), 9 (partly), 10 (partly), 12 (partly), 14-16 (all partly), 18, 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents hydrogen, 1-4C-alkyl, etc., and R3 is the radical -CO-NR31R32 wherein R31 is 3-7C-cycloalkyl;

13. claims: 1 (partly), 3-7 (all partly), 9 (partly), 14 (partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents hydrogen, 1-4C-alkyl, etc., and R3 is the radical -CO-NR31R32 wherein R31 is 1-4C-alkylsulfonyl, arylsulfonyl or aryl-1-4C-alkylsulfonyl;

14. claims: 1 (partly), 3-7 (all partly), 9 (partly), 14 (partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents hydrogen, 1-4C-alkyl, etc., and R3 is the radical -CO-NR31R32 wherein R31 is aryl;

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

15. claims: 1 (partly), 3-6 (all partly), 14 (partly), 20 (partly),
21 (partly)

the compounds of the present formula (1) wherein R2 represents hydrogen, 1-4C-alkyl, etc., and R3 is the radical -CO-NR31R32 wherein R31 and R32 together and including the nitrogen atom to which they are attached form a pyrrolidino, piperidino or morpholino radical substituted by R33, R34 and R35, where at least one of R33, R34, or R35 is different from hydrogen;

16. claims: 1 (partly) 3-7 (all partly), 9 (partly), 14 (partly),
20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents hydrogen, 1-4C-alkyl, etc., and R3 is the radical -CO-NR31R32 wherein R31 and R32 together and including the nitrogen atom to which they are attached form a piperazino radical;

17. claims: 1-7 (all partly), 9 (partly), 10 (partly), 12 (partly),
14-16 (all partly), 19, 20 (partly),
21 (partly)

the compounds of the present formula (1) wherein R2 represents hydrogen, 1-4C-alkyl, etc., and R3 is the radical -CO-NR31R32 wherein R31 and R32 together and including the nitrogen atom to which they are attached form an aziridino or azetidino radical;

18. claims: 1 (partly), 3 (partly), 4 (partly), 14 (partly), 20
(partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents hydrogen, 1-4C-alkyl, etc., and R3 is the radical -S02-NR31R32;

19. claims: 1 (partly), 3-7 (all partly), 9 (partly), 14-16 (all
partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2 represents hydrogen, 1-4C-alkyl, etc., and R3 is the radical -CS-NR31R32;

20. claims: 1 (partly), 3 (partly), 4 (partly), 14 (partly), 20
(partly), 21 (partly)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

the compounds of the present formula (1) wherein R2
represents hydrogen, 1-4C-alkyl, etc., and R3 is the radical
-C=N(OH)-NR31R32;

21. claims: 1-7 (all partly), 9 (partly), 10 (partly), 12 (partly),
14 (partly), 20 (partly), 21 (partly)

the compounds of the present formula (1) wherein R2
represents hydrogen, 1-4C-alkyl, etc., and R3 is the group
Het;

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 240

Continuation of Box 3.

Although claim 21 is directed to a method of treatment of the human/animal body (Article 52(4) EPC), the search has been carried out and based on the alleged effects of the compound/composition.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2005/051211

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03014123	A	20-02-2003	AT 297931 T	15-07-2005
			BR 0211826 A	28-06-2005
			CA 2452803 A1	20-02-2003
			CN 1541219 A	27-10-2004
			DE 60204701 D1	21-07-2005
			HR 20040229 A2	28-02-2005
			HU 0500330 A2	28-07-2005
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			MX PA04001277 A	27-05-2004
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			NZ 531520 A	28-10-2005
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			ZA 9502860 A	12-01-1996
